

FIG. 1

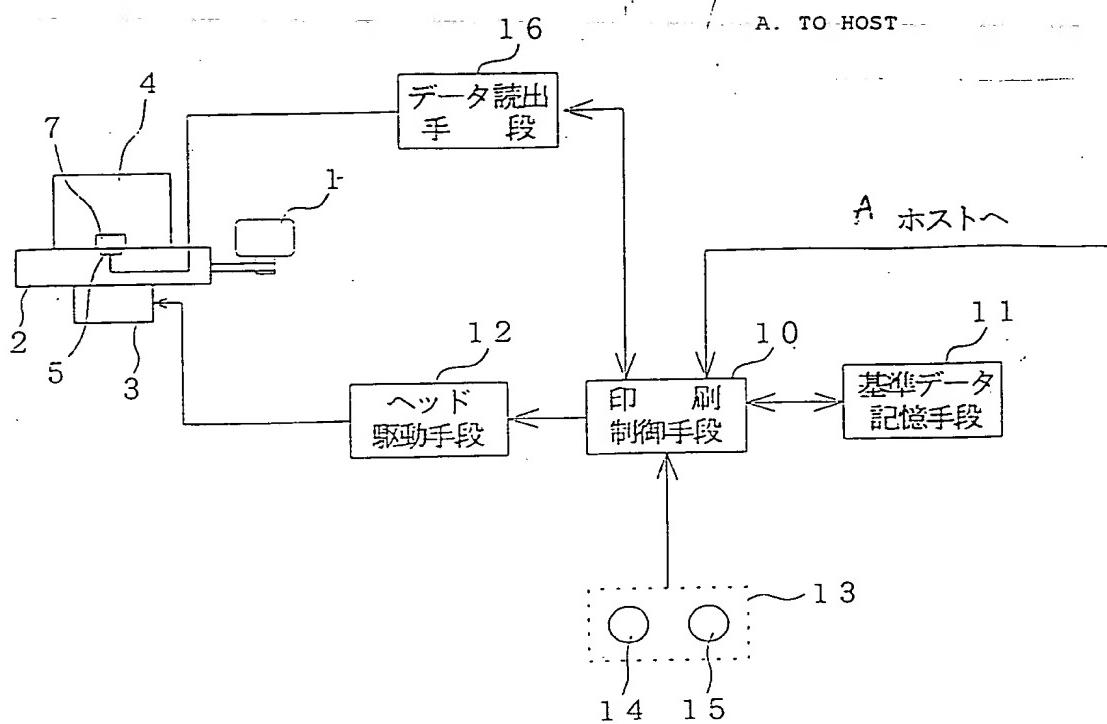
10 PRIMARY CONTROL MEANS

11 REFERENCE DATA STORAGE MEANS

12 HEAD DRIVE MEANS

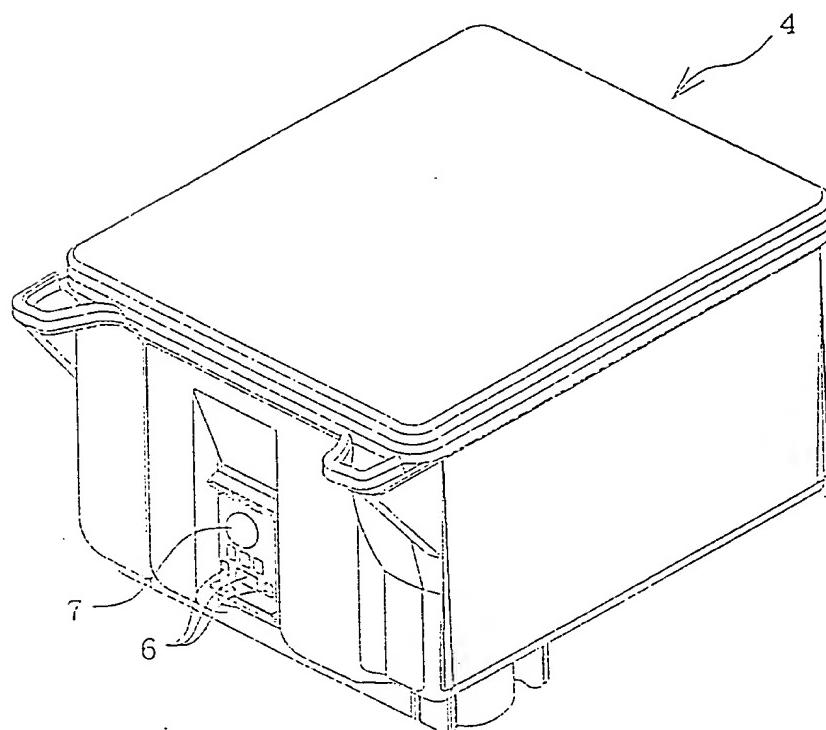
16 DATA READ MEANS

A. TO HOST--



第2図

Fig. 2



START

S1 I/C REPLACED, MOUNTED

S2 COMPATIBLE TO THE RECORDING APPARATUS

S3 PERFORM INK FILLING OPERATION

S4 PRINTABLE

S5 PRINT INSTRUCTION INPUT

S6 PRINT OPERATION

S7 CAUTION

S8 INPUT CONTINUATION INSTRUCTION

S9 I/C REPLACED, MOUNTED

S10 PREDETERMINED TIME ELAPSED

S11 INK FILLING OPERATION

S12 PRINTABLE

S13 PRINT INSTRUCTION INPUT

S14 PRINT OPERATION

S15 PREDETERMINED AMOUNT OF PRINT

END

第3図 Fig. 3

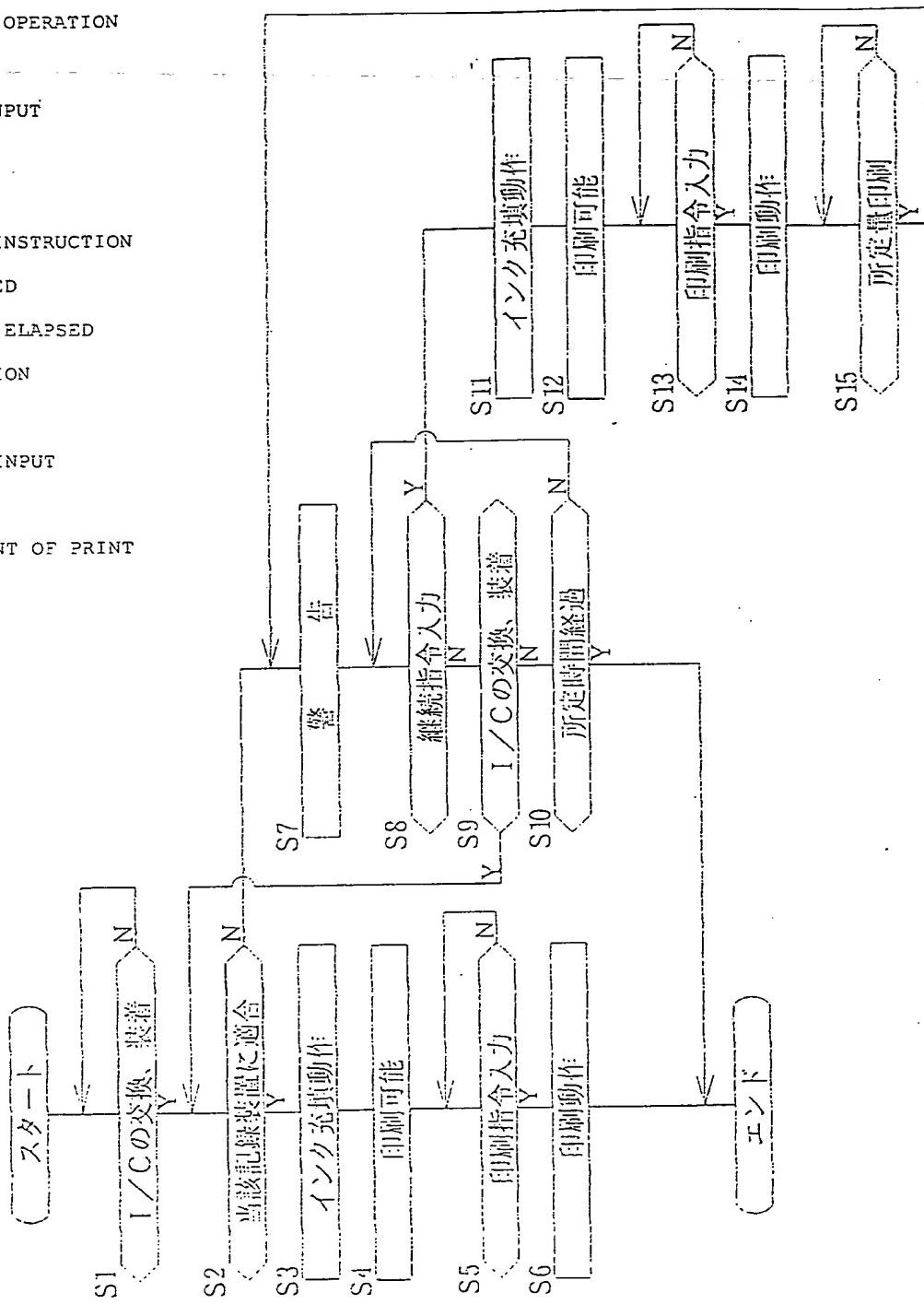


FIG. 4

第4図 Fig. 4

START

S1 I/C REPLACED, MOUNTED

S2 COMPATIBLE TO THE RECORDING APPARATUS

S3 INK FILLING OPERATION

S4 PRINTABLE

S5 PRINT INSTRUCTION INPUT

S6 PRINT OPERATION

S7 CAUTION

S8 INPUT CONTINUATION INSTRUCTION

S9 I/C REPLACED, MOUNTED

S10 PREDETERMINED TIME ELAPSED

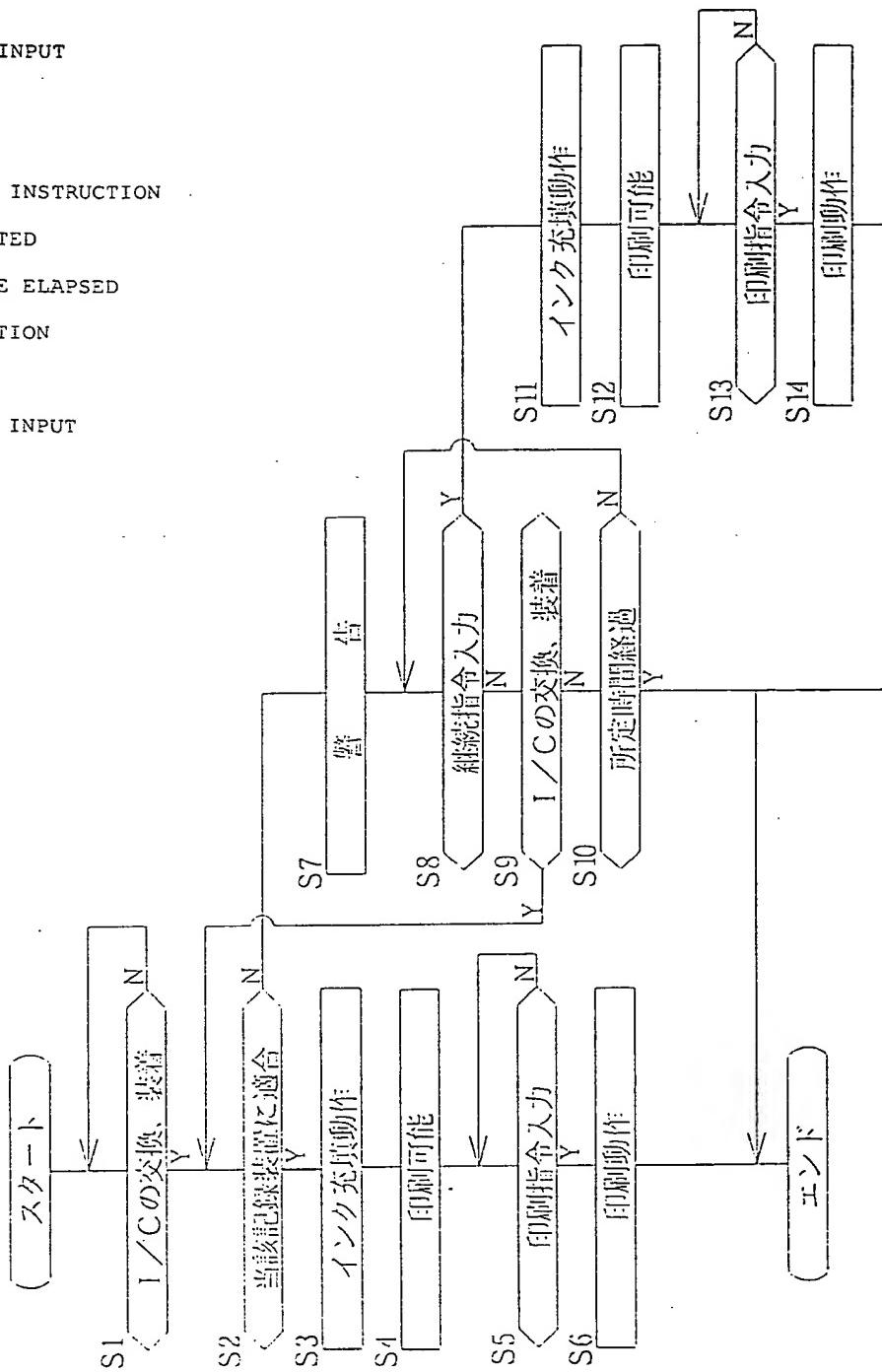
S11 INK FILLING OPERATION

S12 PRINTABLE

S13 PRINT INSTRUCTION INPUT

PRINT OPERATION

END



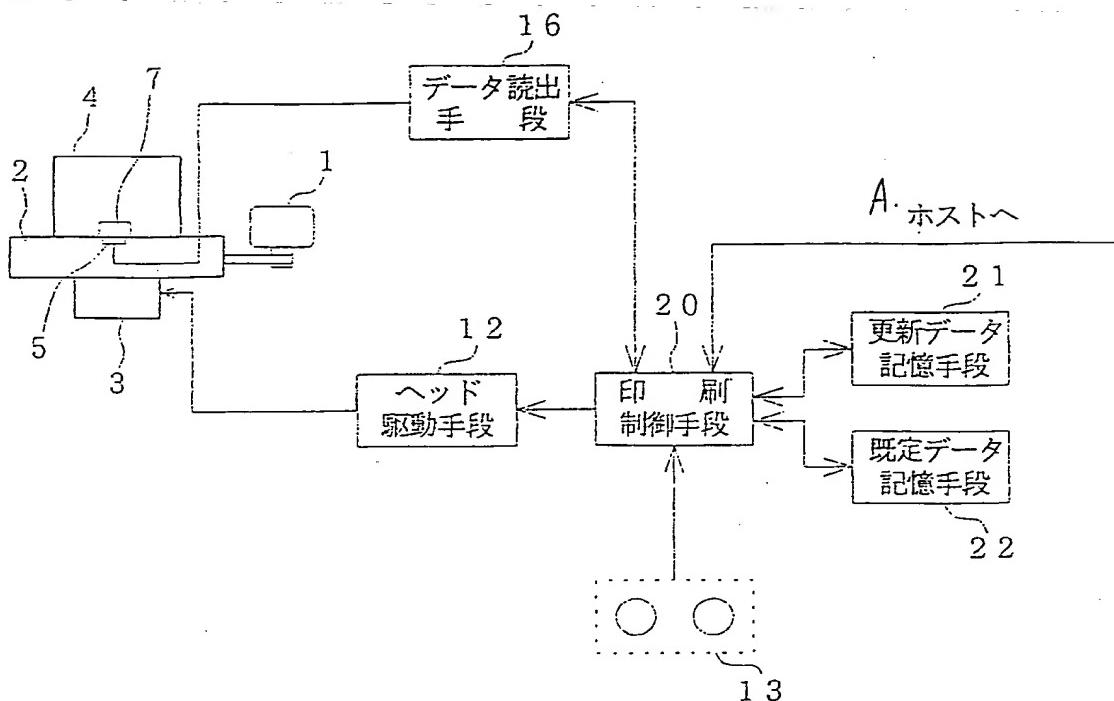


FIG. 5

12 HEAD DRIVE MEANS

16 DATA READ MEANS

20 PRINT CONTROL MEANS

21 UPDATE DATA STORAGE MEANS

22 DEFAULT DATA STORAGE MEANS

A. TO HOST

START

S1 I/C REPLACED, MOUNTED

S2 COMPATIBLE TO THE RECORDING APPARATUS

S3 READ DATA AND UPDATE DATA

S4 PRINTABLE

S5 DISPLAY CANNOT BE USED

S6 I/C REPLACED, MOUNTED

S7 PREVIOUS UPDATE DATA SELECTED

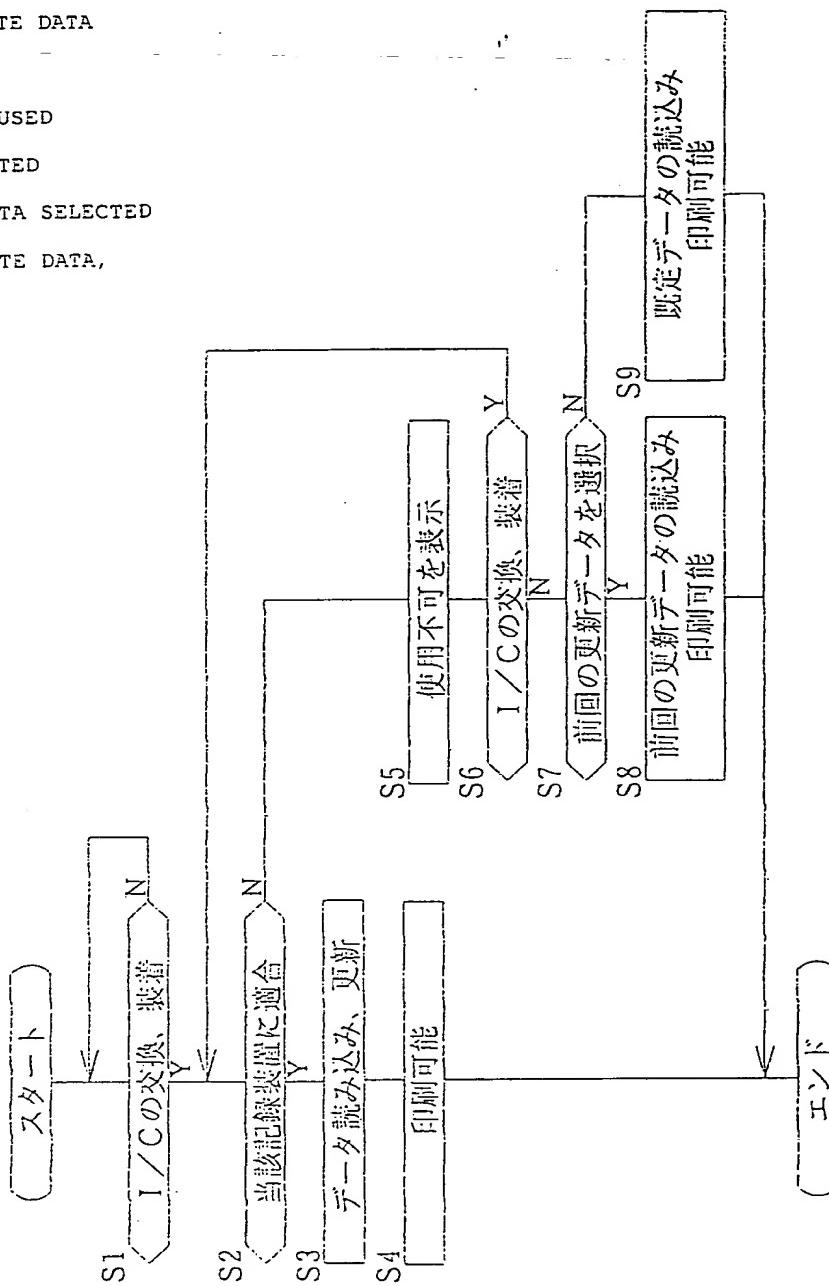
S8 READ PREVIOUS UPDATE DATA,

PRINTABLE

S9 READ DEFAULT DATA,

PRINTABLE

END



第7図 7-27

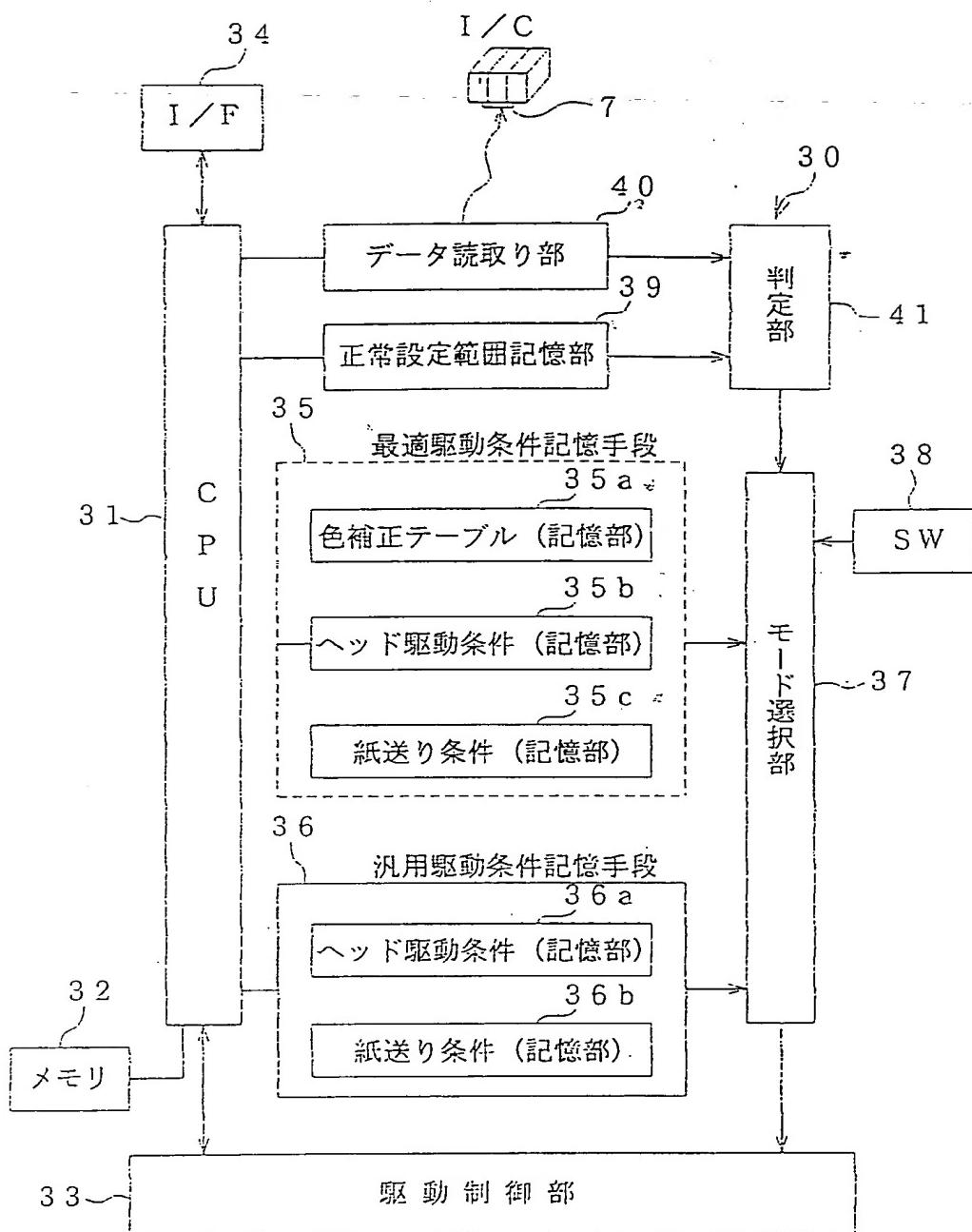


FIG. 7

32 MEMORY

33 DRIVE CONTROL SECTION

35 OPTIMUM DRIVE CONDITION STORAGE SECTION

35A COLOR CORRECTION TABLE (STORAGE SECTION)

35B HEAD DRIVE CONDITION (STORAGE SECTION)

35C PAPER FEED CONDITION (STORAGE SECTION)

36 GENERAL-PURPOSE DRIVE CONDITION STORAGE SECTION

36A HEAD DRIVE CONDITION (STORAGE SECTION)

36B PAPER FEED CONDITION (STORAGE SECTION)

37 MODE SELECTION SECTION

39 NORMAL SETUP RANGE STORAGE SECTION

40 DATA READ SECTION

41 DETERMINATION SECTION

09688183-101600

図 8

記憶情報テーブル

1	製造年 (下1桁、4)	…0000~1001 (0~9)
2	製造月 (下2桁、4)	…0001~1100 (1~12)
3	製造日 (下2桁、8)	…0000 0001~0011 0001 (01~31)
4	取付年 (下1桁、4)	…0000~1001 (0~9)
5	取付月 (下2桁、4)	…0001~1100 (1~12)
6	取付日 (下2桁、8)	…0000 0001~0011 0001 (01~31)
7	インクの種類 (4)	…0000~1111 (0~F)
8	色情報 (8)	…0000 0000~1111 1111 (00~FF)
9	カートリッジの仕向先や、内容量といったカートリッジ種類を示すデータ (8)	
10	最適なインクシーケンスのモードを示す情報 (8)	
11	インク残量 (142)	
12	製造ラインを示す情報 (4)	

FIG. 8

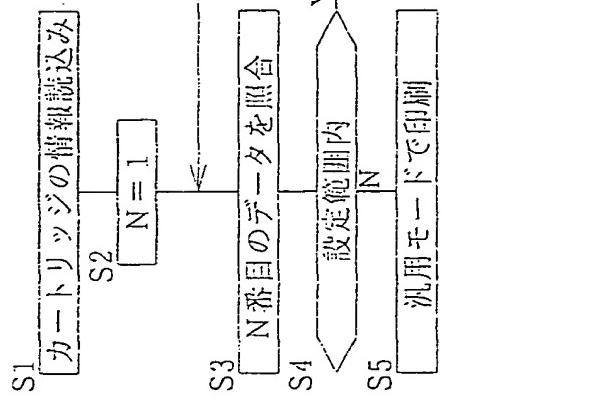
STORAGE INFORMATION TABLE

- 1 MANUFACTURING YEAR (LOW-ORDER ONE DIGIT, 4)
- 2 MANUFACTURING MONTH (LOW-ORDER TWO DIGITS, 4)
- 3 MANUFACTURING DAY (LOW-ORDER TWO DIGITS, 8)
- 4 ATTACHMENT YEAR (LOW-ORDER ONE DIGIT, 4)
- 5 ATTACHMENT MONTH (LOW-ORDER TWO DIGITS, 4)
- 6 ATTACHMENT DAY (LOW-ORDER TWO DIGITS, 8)
- 7 INK TYPE (4)
- 8 COLOR INFORMATION (8)
- 9 DATA INDICATING CARTRIDGE TYPE OF DESTINATION, CONTENT AMOUNT, ETC., OF THE CARTRIDGE (8)
- 10 INFORMATION INDICATING MODE OF OPTIMUM INK SEQUENCE (8)
- 11 INK REMAINING AMOUNT (142)
- 12 INFORMATION INDICATING THE MANUFACTURING LINE (4)

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S1 READ INFORMATION OF CARTRIDGE
 S2 N=1
 S3 CHECK N-TH DATA
 S4 WITHIN SETUP RANGE
 S5 PRINT IN GENERAL-PURPOSE MODE
 S6 N=M
 S7 SELECT OPTIMUM MODE BASED ON STORAGE INFORMATION AND PRINT
 S8 N=N+1



I <NORMAL>

MANUFACTURED ON 4-1-1997; ATTACHED ON 2-15-1998

INK TYPE NO. 10 COLOR NO. 3B

II <ABNORMAL>

OUT OF RANGE OF 0-9 OUT OF RANGE OF 01-31

CHANGE TO VALUE OTHER THAN NO. 10. HOWEVER, WITHIN

RANGE

CHANGE TO NO. 3F. HOWEVER, WITHIN RANGE

(7) (4) (8) (1) (1) (3) (0) (1) (B)

三

1997. 4. 1 製造、1998. 2. 15 取扱
インク種NO. 10 色NO. 3 B

1997.4.1 製造、1998.2.15 取扱
インク種NO.10 色NO.3B

↑
↑
 $\theta = 0$
 $\theta = \pi$

外
側壁
0~9

\rightarrow 01~31~60~100~144~188~232~276~320~364~408~452~496~540~584~628~672~716~760~804~848~892~936~980~1024~1068~1112~1156~1190~1234~1278~1322~1366~1410~1454~1498~1542~1586~1630~1674~1718~1762~1806~1850~1894~1938~1982~2026~2070~2114~2158~2202~2246~2290~2334~2378~2422~2466~2510~2554~2598~2642~2686~2730~2774~2818~2862~2906~2950~2994~3038~3082~3126~3170~3214~3258~3302~3346~3390~3434~3478~3522~3566~3610~3654~3698~3742~3786~3830~3874~3918~3962~3996~4040~4084~4128~4172~4216~4260~4304~4348~4392~4436~4480~4524~4568~4612~4656~4690~4734~4778~4822~4866~4910~4954~4998~5042~5086~5130~5174~5218~5262~5306~5350~5394~5438~5482~5526~5570~5614~5658~5702~5746~5790~5834~5878~5922~5966~5996~6040~6084~6128~6172~6216~6260~6304~6348~6392~6436~6480~6524~6568~6612~6656~6690~6734~6778~6822~6866~6910~6954~6998~7042~7086~7130~7174~7218~7262~7306~7350~7394~7438~7482~7526~7570~7614~7658~7702~7746~7790~7834~7878~7922~7966~7996~8040~8084~8128~8172~8216~8260~8304~8348~8392~8436~8480~8524~8568~8612~8656~8690~8734~8778~8822~8866~8910~8954~8998~9042~9086~9130~9174~9218~9262~9306~9350~9394~9438~9482~9526~9570~9614~9658~9690~9734~9778~9822~9866~9910~9954~9998~10042~10086~10130~10174~10218~10262~10306~10350~10394~10438~10482~10526~10570~10614~10658~10690~10734~10778~10822~10866~10910~10954~10998~11042~11086~11130~11174~11218~11262~11306~11350~11394~11438~11482~11526~11570~11614~11658~11690~11734~11778~11822~11866~11910~11954~11998~12042~12086~12130~12174~12218~12262~12306~12350~12394~12438~12482~12526~12570~12614~12658~12690~12734~12778~12822~12866~12910~12954~12998~13042~13086~13130~13174~13218~13262~13306~13350~13394~13438~13482~13526~13570~13614~13658~13690~13734~13778~13822~13866~13910~13954~13998~14042~14086~14130~14174~14218~14262~14306~14350~14394~14438~14482~14526~14570~14614~14658~14690~14734~14778~14822~14866~14910~14954~14998~15042~15086~15130~15174~15218~15262~15306~15350~15394~15438~15482~15526~15570~15614~15658~15690~15734~15778~15822~15866~15910~15954~15998~16042~16086~16130~16174~16218~16262~16306~16350~16394~16438~16482~16526~16570~16614~16658~16690~16734~16778~16822~16866~16910~16954~16998~17042~17086~17130~17174~17218~17262~17306~17350~17394~17438~17482~17526~17570~17614~17658~17690~17734~17778~17822~17866~17910~17954~17998~18042~18086~18130~18174~18218~18262~18306~18350~18394~18438~18482~18526~18570~18614~18658~18690~18734~18778~18822~18866~18910~18954~18998~19042~19086~19130~19174~19218~19262~19306~19350~19394~19438~19482~19526~19570~19614~19658~19690~19734~19778~19822~19866~19910~19954~19998~20042~20086~20130~20174~20218~20262~20306~20350~20394~20438~20482~20526~20570~20614~20658~20690~20734~20778~20822~20866~20910~20954~20998~21042~21086~21130~21174~21218~21262~21306~21350~21394~21438~21482~21526~21570~21614~21658~21690~21734~21778~21822~21866~21910~21954~21998~22042~22086~22130~22174~22218~22262~22306~22350~22394~22438~22482~22526~22570~22614~22658~22690~22734~22778~22822~22866~22910~22954~22998~23042~23086~23130~23174~23218~23262~23306~23350~23394~23438~23482~23526~23570~23614~23658~23690~23734~23778~23822~23866~23910~23954~23998~24042~24086~24130~24174~24218~24262~24306~24350~24394~24438~24482~24526~24570~24614~24658~24690~24734~24778~24822~24866~24910~24954~24998~25042~25086~25130~25174~25218~25262~25306~25350~25394~25438~25482~25526~25570~25614~25658~25690~25734~25778~25822~25866~25910~25954~25998~26042~26086~26130~26174~26218~26262~26306~26350~26394~26438~26482~26526~26570~26614~26658~26690~26734~26778~26822~26866~26910~26954~26998~27042~27086~27130~27174~27218~27262~27306~27350~27394~27438~27482~27526~27570~27614~27658~27690~27734~27778~27822~27866~27910~27954~27998~28042~28086~28130~28174~28218~28262~28306~28350~28394~28438~28482~28526~28570~28614~28658~28690~28734~28778~28822~28866~28910~28954~28998~29042~29086~29130~29174~29218~29262~29306~29350~29394~29438~29482~29526~29570~29614~29658~29690~29734~29778~29822~29866~29910~29954~29998~30042~30086~30130~30174~30218~30262~30306~30350~30394~30438~30482~30526~30570~30614~30658~30690~30734~30778~30822~30866~30910~30954~30998~31042~31086~31130~31174~31218~31262~31306~31350~31394~31438~31482~31526~31570~31614~31658~31690~31734~31778~31822~31866~31910~31954~31998~32042~32086~32130~32174~32218~32262~32306~32350~32394~32438~32482~32526~32570~32614~32658~32690~32734~32778~32822~32866~32910~32954~32998~33042~33086~33130~33174~33218~33262~33306~33350~33394~33438~33482~33526~33570~33614~33658~33690~33734~33778~33822~33866~33910~33954~33998~34042~34086~34130~34174~34218~34262~34306~34350~34394~34438~34482~34526~34570~34614~34658~34690~34734~34778~34822~34866~34910~34954~34998~35042~35086~35130~35174~35218~35262~35306~35350~35394~35438~35482~35526~35570~35614~35658~35690~35734~35778~35822~35866~35910~35954~35998~36042~36086~36130~36174~36218~36262~36306~36350~36394~36438~36482~36526~36570~36614~36658~36690~36734~36778~36822~36866~36910~36954~36998~37042~37086~37130~37174~37218~37262~37306~37350~37394~37438~37482~37526~37570~37614~37658~37690~37734~37778~37822~37866~37910~37954~37998~38042~38086~38130~38174~38218~38262~38306~38350~38394~38438~38482~38526~38570~38614~38658~38690~38734~38778~38822~38866~38910~38954~38998~39042~39086~39130~39174~39218~39262~39306~39350~39394~39438~39482~39526~39570~39614~39658~39690~39734~39778~39822~39866~39910~39954~39998~40042~40086~40130~40174~40218~40262~40306~40350~40394~40438~40482~40526~40570~40614~40658~40690~40734~40778~40822~40866~40910~40954~40998~41042~41086~41130~41174~41218~41262~41306~41350~41394~41438~41482~41526~41570~41614~41658~41690~41734~41778~41822~41866~41910~41954~41998~42042~42086~42130~42174~42218~42262~42306~42350~42394~42438~42482~42526~42570~42614~42658~42690~42734~42778~42822~42866~42910~42954~42998~43042~43086~43130~43174~43218~43262~43306~43350~43394~43438~43482~43526~43570~43614~43658~43690~43734~43778~43822~43866~43910~43954~43998~44042~44086~44130~44174~44218~44262~44306~44350~44394~44438~44482~44526~44570~44614~44658~44690~44734~44778~44822~44866~44910~44954~44998~45042~45086~45130~45174~45218~45262~45306~45350~45394~45438~45482~45526~45570~45614~45658~45690~45734~45778~45822~45866~45910~45954~45998~46042~46086~46130~46174~46218~46262~46306~46350~46394~46438~46482~46526~46570~46614~46658~46690~46734~46778~46822~46866~46910~46954~46998~47042~47086~47130~47174~47218~47262~47306~47350~47394~47438~47482~47526~47570~47614~47658~47690~47734~47778~47822~47866~47910~47954~47998~48042~48086~48130~48174~48218~48262~48306~48350~48394~48438~48482~48526~48570~48614~48658~48690~48734~48778~48822~48866~48910~48954~48998~49042~49086~49130~49174~49218~49262~49306~49350~49394~49438~49482~49526~49570~49614~49658~49690~49734~49778~49822~49866~49910~49954~49998~50042~50086~50130~50174~50218~50262~50306~50350~50394~50438~50482~50526~50570~50614~50658~50690~50734~50778~50822~50866~50910~50954~50998~51042~51086~51130~51174~51218~51262~51306~51350~51394~51438~51482~51526~51570~51614~51658~51690~51734~51778~51822~51866~51910~51954~51998~52042~52086~52130~52174~52218~52262~52306~52350~52394~52438~52482~52526~52570~52614~52658~52690~52734~52778~52822~52866~52910~52954~52998~53042~53086~53130~53174~53218~53262~53306~53350~53394~53438~53482~53526~53570~53614~53658~53690~53734~53778~53822~53866~53910~53954~53998~54042~54086~54130~54174~54218~54262~54306~54350~54394~54438~54482~54526~54570~54614~54658~54690~54734~54778~54822~54866~54910~54954~54998~55042~55086~55130~55174~55218~55262~55306~55350~55394~55438~55482~55526~55570~55614~55658~55690~55734~55778~55822~55866~55910~55954~55998~56042~56086~56130~56174~56218~56262~56306~56350~56394~56438~56482~56526~56570~56614~56658~56690~56734~56778~56822~56866~56910~56954~56998~57042~57086~57130~57174~57218~57262~57306~57350~57394~57438~57482~57526~57570~57614~57658~57690~57734~57778~57822~57866~57910~57954~57998~58042~58086~58130~58174~58218~58262~58306~58350~58394~58438~58482~58526~58570~58614~58658~58690~58734~58778~58822~58866~58910~58954~58998~59042~59086~59130~59174~59218~59262~59306~59350~59394~59438~59482~59526~59570~59614~59658~59690~59734~59778~59822~59866~59910~59954~59998~60042~60086~60130~60174~60218~60262~60306~60350~60394~60438~60482~60526~60570~60614~60658~60690~60734~60778~60822~60866~60910~60954~60998~61042~61086~61130~61174~61218~61262~61306~61350~61394~61438~61482~61526~61570~61614~61658~61690~61734~61778~61822~61866~61910~61954~61998~62042~62086~62130~62174~62218~62262~62306~62350~62394~62438~62482~62526~62570~62614~62658~62690~62734~62778~62822~62866~62910~62954~62998~63042~63086~63130~63174~63218~63262~63306~63350~63394~63438~63482~63526~63570~63614~63658~63690~63734~63778~63822~63866~63910~63954~63998~64042~64086~64130~64174~64218~64262~64306~64350~64394~64438~64482~64526~64570~64614~64658~64690~64734~64778~64822~64866~64910~64954~64998~65042~65086~65130~65174~65218~65262~65306~65350~65394~65438~65482~65526~65570~65614~65658~65690~65734~65778~65822~65866~65910~65954~65998~66042~66086~66130~66174~66218~66262~66306~66350~66394~66438~66482~66526~66570~66614~66658~66690~66734~66778~66822~66866~66910~66954~66998~67042~67086~67130~67174~67218~67262~67306~67350~67394~67438~67482~67526~67570~67614~67658~67690~67734~67778~67822~67866~67910~67954~67998~68042~68086~68130~68174~68218~68262~68306~68350~68394~68438~68482~68526~68570~68614~68658~68690~68734~68778~68822~68866~68910~68954~68998~69042~69086~69130~69174~69218~69262~69306~69350~69394~69438~69482~69526~69570~69614~69658~69690~69734~69778~69822~69866~69910~69954~69998~70042~70086~70130~70174~70218~70262~70306~70350~70394~70438~70482~70526~70570~70614~70658~70690~70734~70778~70822~70866~70910~70954~70998~71042~71086~71130~71174~71218~71262~71306~71350~71394~71438~71482~71526~71570~71614~71658~71690~71734~71778~71822~71866~71910~71954~71998~72042~72086~72130~72174~72218~72262~72306~72350~72394~72438~72482~72526~72570~72614~72658~72690~72734~72778~72822~72866~72910~72954~72998~73042~73086~73130~73174~73218~73262~73306~73350~73394~73438~73482~73526~73570~73614~73658~73690~73734~73778~73822~73866~73910~73954~73998~74042~74086~74130~74174~74218~74262~74306~74350~74394~74438~74482~74526~74570~74614~74658~74690~74734~74778~74822~74866~74910~74954~74998~75042~75086~75130~75174~75218~75262~75306~75350~75394~75438~75482~75526~75570~75614~75658~75690~75734~75778~75822~75866~75910~75954~75998~76042~76086~76130~76174~76218~76262~76306~76350~76394~76438~76482~76526~76570~76614~76658~76690~76734~76778~76822~76866~76910~76954~76998~77042~77086~77130~77174~77218~77262~77306~77350~77394~77438~77482~77526~77570~77614~77658~77690~77734~77778~77822~77866~77910~77954~77998~78042~78086~78130~78174~78218~78262~78306~78350~78394~78438~78482~78526~78570~78614~78658~78690~78734~78778~78822~78866~78910~78954~78998~79042~79086~79130~79174~79218~79262~79306~79350~79394~79438~79482~79526~79570~79614~79658~79690~79734~79778~79822~79866~79910~79954~79998~80042~80086~80130~80174~80218~80262~80306~80350~80394~80438~80482~80526~80570~80614~80658~80690~80734~80778~80822~80866~80910~80954~80998~81042~81086~81130~81174~81218~81262~81306~81350~81394~81438~81482~81526~81570~81614~81658~81690~81734~81778~81822~81866~81910~81954~81998~82042~82086~82130~82174~82218~82262~82306~82350~82394~82438~82482~82526~82570~82614~82658~82690~82734~82778~82822~82866~82910~82954~82998~83042~83086~83130~83174~83218~83262~83306~83350~83394~83438~83482~83526~83570~83614~83658~83690~83734~83778~83822~83866~83910~83954~83998~84042~84086~84130~84174~84218~84262~84306~84350~84394~84438~84482~84526~84570~84614~84658~84690~84734~84778~84822~84866~84910~84954~84998~85042~85086~85130~85174~85218~85262~85306~85350~85394~85438~85482~85526~85570~85614~85658~85690~85734~85778~85822~85866~85910~85954~85998~86042~86086~86130~86174~86218~86262~86306~86350~86394~86438~86482~86526~86570~86614~86658~86690~86734~86778~86822~86866~86910~86954~86998~87042~87086~87130~87174~87218~87262~87306~87350~87394~87438~87482~87526~87570~87614~87658~87690~87734~87778~87822~87866~87910~87954~87998~88042~88086~88130~88174~88218~88262~88306~88350~88394~88438~88482~88526~88570~88614~88658~88690~88734~88778~88822~88866~88910~88954~88998~89042~89086~89130~89174~89218~89262~89306~89350~89394~89438~89482~89526~89570~89614~89658~89690~89734~89778~89822~89866~89910~89954~89998~90042~90086~90130~90174~90218~90262~90306~90350~90394~90438~90482~90526~90570~90614~90658~90690~90734~90778~90822~90866~90910~90954~90998~91042~91086~91130~91174~91218~91262~91306~91

No. 3 Fに変化してしまっている。ただし、範囲内

NO.10以外の値に到達してしまう。ただし、範囲が

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第11図 Fig. 11

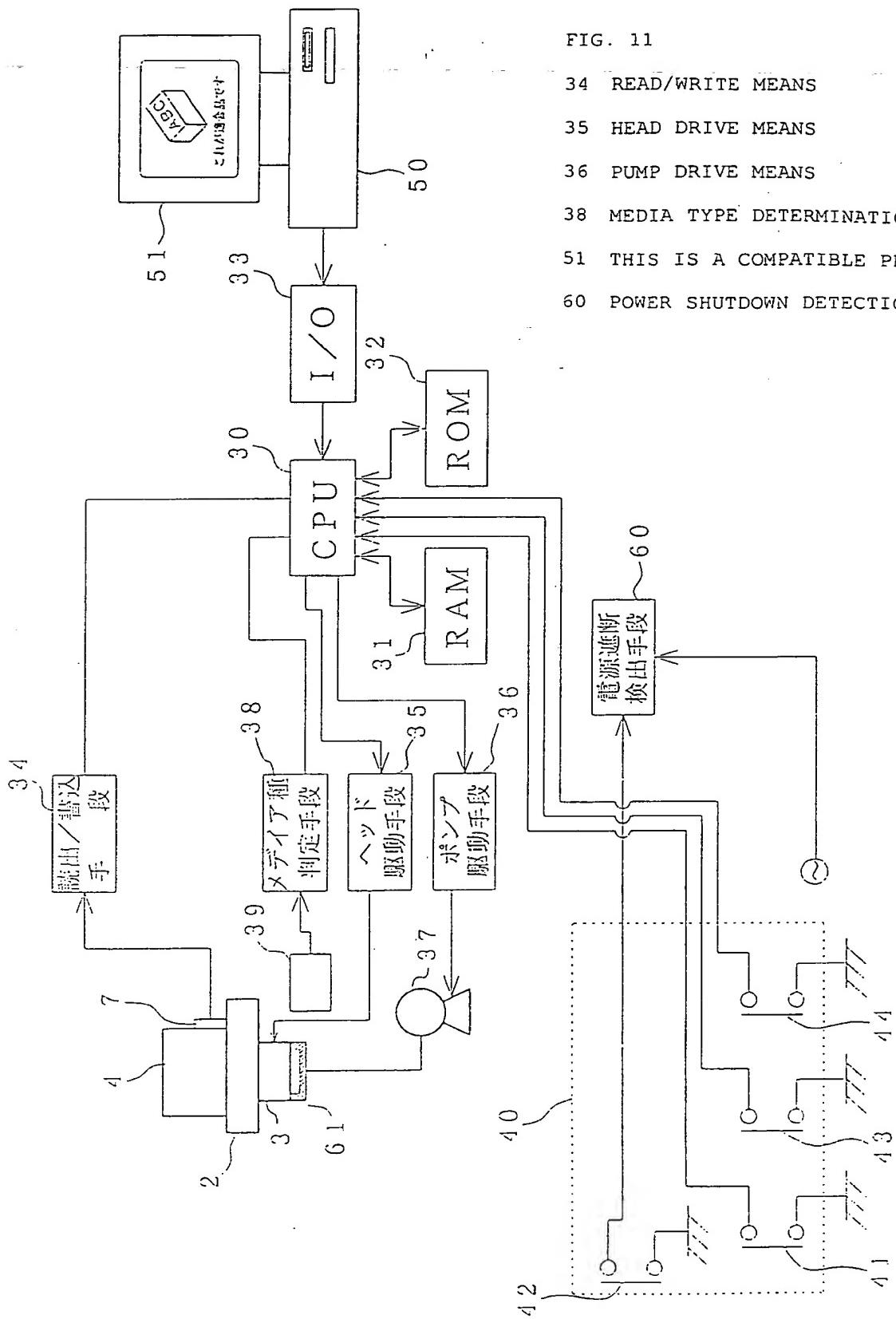


FIG. 11

34 READ/WRITE MEANS

35 HEAD DRIVE MEANS

36 PUMP DRIVE MEANS

38 MEDIA TYPE DETERMINATION MEANS

51 THIS IS A COMPATIBLE PRODUCT

60 POWER SHUTDOWN DETECTION MEANS

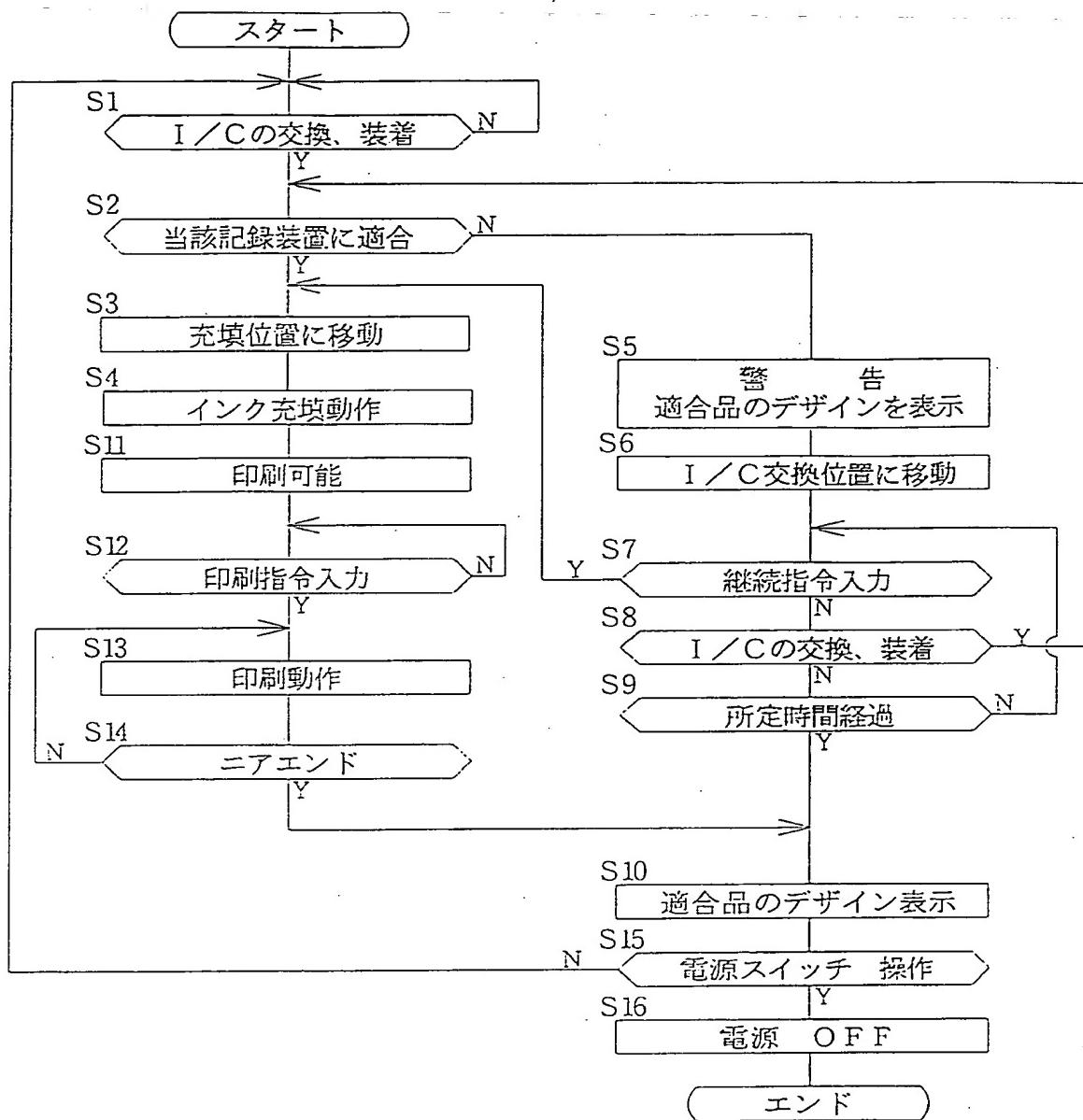


FIG. 12

START

S1 I/C REPLACED, MOUNTED

S2 COMPATIBLE TO THE RECORDING APPARATUS

S3 MOVE TO FILLING POSITION

S4 INK FILLING OPERATION

S5 CAUTION

DISPLAY DESIGN OF COMPATIBLE PRODUCT

S6 MOVE TO I/C REPLACEMENT POSITION

S7 CONTINUATION INSTRUCTION INPUT

S8 I/C REPLACED, MOUNTED

S9 PREDETERMINED TIME ELAPSED

S10 DISPLAY DESIGN OF COMPATIBLE PRODUCT

S11 PRINTABLE

S12 PRINT INSTRUCTION INPUT

S13 PRINT OPERATION

S14 NEAR END

S15 POWER SWITCH OPERATED

S16 TURN OFF POWER

END

09638107-404600

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第13図 Fig. 13

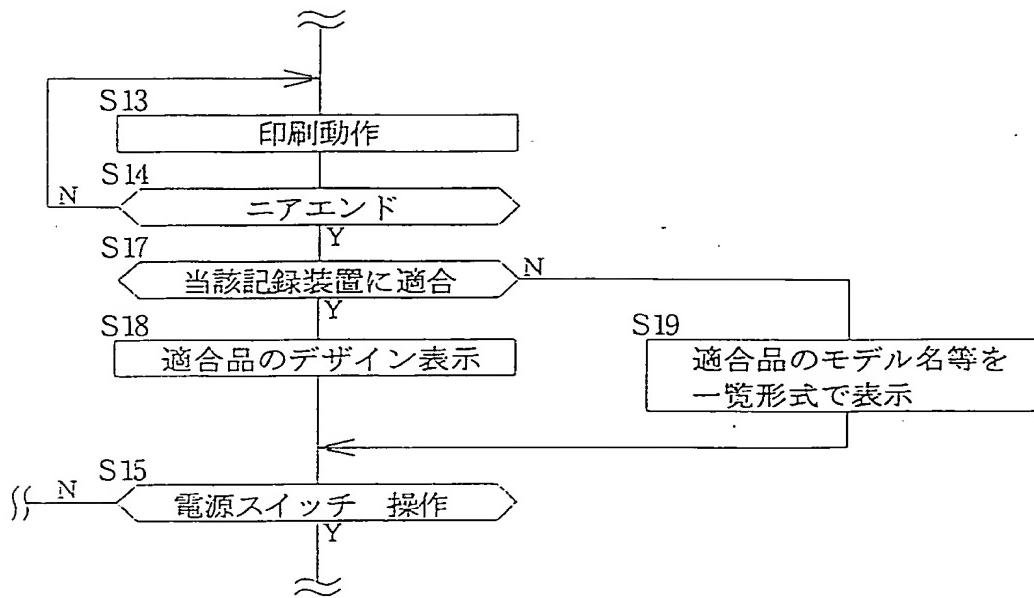


FIG. 13

S13 PRINT OPERATION

S14 NEAR END

S17 COMPATIBLE TO THE RECORDING APPARATUS

S18 DISPLAY DESIGN OF COMPATIBLE PRODUCT

S19 LIST MODEL NAMES, ETC., OF COMPATIBLE PRODUCTS

S15 POWER SWITCH OPERATED

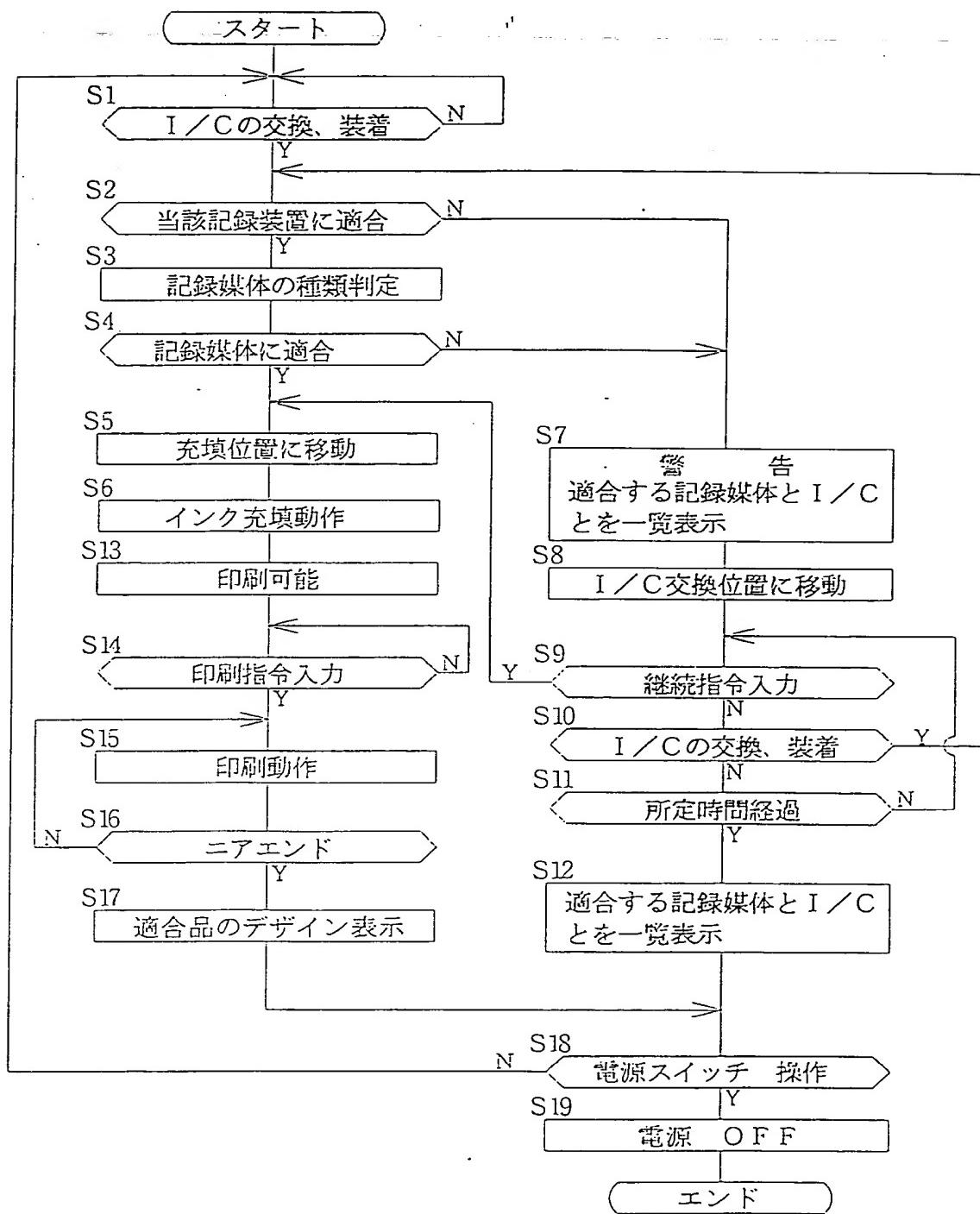


FIG. 14

START

- S1 I/C REPLACED, MOUNTED
- S2 COMPATIBLE TO THE RECORDING APPARATUS
- S3 DETERMINE TYPE OF RECORD MEDIUM
- S4 COMPATIBLE TO RECORD MEDIUM
- S5 MOVE TO FILLING POSITION
- S6 PERFORM INK FILLING OPERATION
- S7 CAUTION
 - LIST COMPATIBLE RECORD MEDIA AND I/C
- S8 MOVE TO I/C REPLACEMENT POSITION
- S9 CONTINUATION INSTRUCTION INPUT
- S10 I/C REPLACED, MOUNTED
- S11 PREDETERMINED TIME ELAPSED
- S12 LIST COMPATIBLE RECORD MEDIA AND I/C
- S13 PRINTABLE
- S14 PRINT INSTRUCTION INPUT
- S15 PRINT OPERATION
- S16 NEAR END
- S17 DISPLAY DESIGN OF COMPATIBLE PRODUCT
- S18 POWER SWITCH OPERATED
- S19 TURN OFF POWER

END

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